Strudel Dermatology Review

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Derminology: Guiding your differential

Primary Lesions

Flat lesion <1 cm?

Macule

Flat lesion >1 cm?

Patch

Elevated lesion <1 cm?

Papule

Elevated domed lesion >1 cm?

Nodule

Elevated flat lesion >1 cm?

Plaque

Blister <1 cm?

Vesicle

Blister >1 cm?

Bulla

Pus filled blister?

Pustule

Smooth, transient, pink elevated lesion?

Wheal (Urticaria)

Denudation of epidermis?

Erosion

Denudation of Dermis?

Ulcer

Secondary Descriptors

Flaking of stratum corneum?

Scale (psoriasis, tinea)

Dried exudate?

Crust

Thickened skin from chronic irritation/scratching?

Lichenification (chronic dermatitis)

Thrombocytopenia, 1-2 mm lesions?

Petechiae

Bleeding under skin, non blanching

Purpura

Chronic steroid use/Cushing?

Atrophic (thinning of skin-aging, cushing)-epidermal or dermal

Lesions after patient has been scratching?

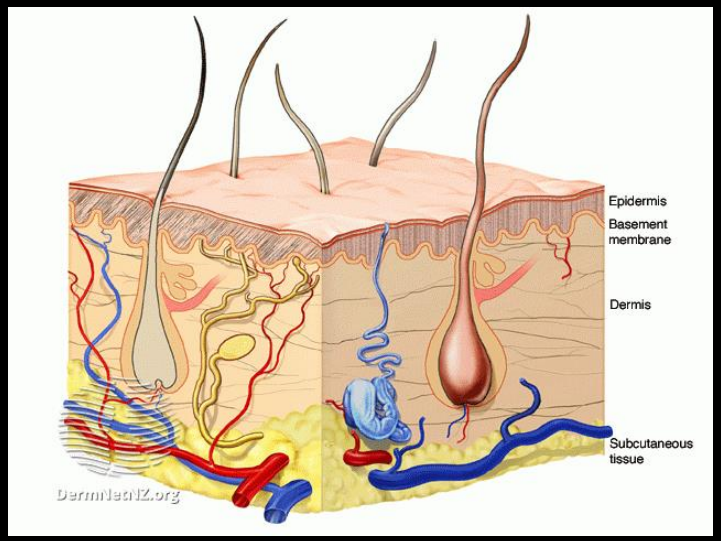
Excoriated

Epidermal Layers

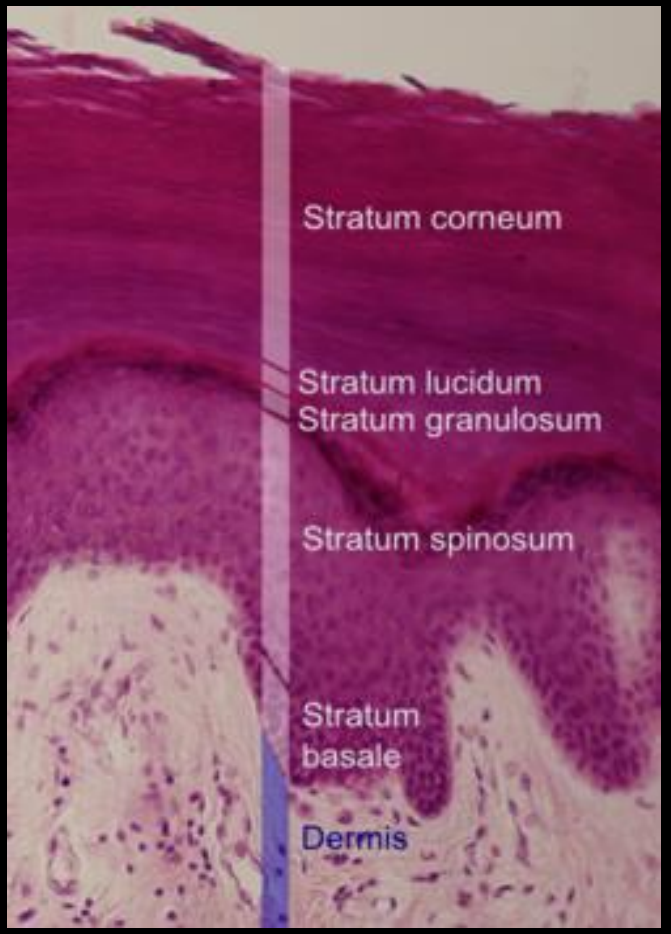
Corneum, Lucidum (seen in acral skin ONLY), Granulosum, Spinosum, Basale

BM->Dermis

Canned Lasagna Goes So Bad



DermnetNZ. https://dermnetnz.org/topics/the-structure-of-normal-skin



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Derm Grouping

Papulosquamous

-Lesions with papules and scaly plaque

Atopic Dermatitis (Eczema)

Tinea

Psoriasis

Seborrheic dermatitis

Fixed drug eruption

Pityriasis rosea

Secondary syphillis

DermnetNZ
https://dermnetnz.org/topics/psoriasis

Vesiculobullous

-Have vesicles or bullae

Pemphigous vulgaris

Bullous pemphigoid

Epidermolysis bullosa

Dermatitis herpetiformis

Bullous impetigo

SJS/TEN

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https://dermnetnz.org/topics/bullous-pemphigoid

Acneiform

-Resemble acne (papules, pustules)

Acne vulgaris

Rosacea

Folliculitis

Hidradenitis suppurativa

DermnetNZ
https://dermnetnz.org/topics/rosacea

Hypopigmented

-Lighter than surrounding skin

Tinea versicolor

Vitiligo

Tinea

Albinism

Piebaldism

Ash-leaf spots

Mycobacterium leprae

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https://dermnetnz.org/topics/pityriasis-versicolor

Papulosquamous

10 yr old with pruritic, erythematous, oozing, lichenified plaques over flexor surfaces with crusting. Hx multiple allergies and rhinitis in the spring.

Atopic Dermatitis (Eczema)

Infant distribution?

Face, extensor surfaces

Pathophys?

Complex interaction of epidermal barrier dysfunction, immune dysregulation, and environment.

-Filaggrin (FLG) mutations (alterations in epidermal barrier) a/w AD development

Barrier dysfunction -> penetration of allergens -> ↑transcription of genes encoding immunologic proteins and cytokines (Th2 > Th1 cytokines involved in regulation of IgE (especially IL-4, IL-5, IL-12, and IL-13))

Acute AD: Th2 predominance w/ eosinophilia, ↑IgE production and ↓cutaneous antimicrobial peptides"

Dx:

Clinical

Tx:

Topical emollients, hypoallergenic cleansers, trigger avoidance, topical steroids

DermnetNZ
https://dermnetnz.org/topics/atopic-dermatitis

DermnetNZ
https://dermnetnz.org/topics/atopic-dermatitis

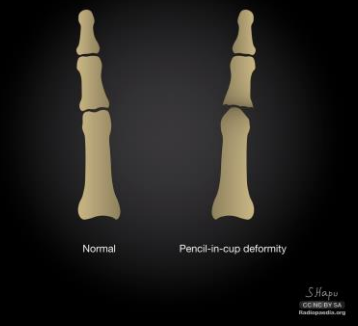
DermnetNZ
https://dermnetnz.org/topics/atopic-dermatitis

Papulosquamous Disorders

Papules and plaques with overlying silvery scaling on extensor scaling. + Auspitz sign.
Psoriasis (plaque)
Weeks after strep throat?
Guttate psoriasis
Nails?
pitting, onycholysis
Ortho?
Psoriatic arthritis (PAIR)-rheum referral
Pathophys?
Autoimmune dysregulation of Helper T cells-excessive proliferation of keratinocytes especially in stratum corneum
Tx?
Topical Vitamin D analog, Topical steroid. Also consider UV light, retinoid, biologics for systemic.
NO systemic steroid! (pustular psoriasis)

DermnetNZ
https://dermnetnz.org/topics/psoriasis

DermnetNZ
https://dermnetnz.org/topics/psoriasis



Case courtesy of Sachintha Hapugoda, Radiopaedia.org, rID: 54415

DermnetNZ
https://dermnetnz.org/topics/psoriasis

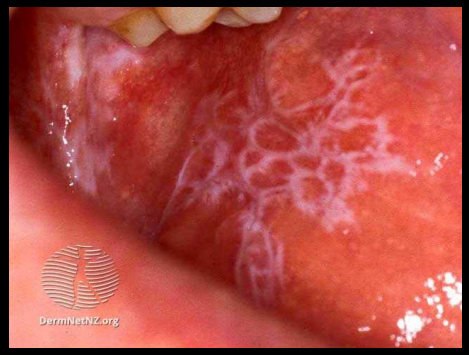
Papulosquamous Disorders

Pruritic, planar, polygonal, purple (flat topped papules, plaques). White, reticular lesions inside of cheek. Distribution along elbows and wrists. Pt has chronic Hep C and just started thiazide.
Lichen planus

Can affect what special sites?
1) Vulvar region
2) Oral mucosa
3) Nails (associated with oral LP)
4) Hair

Dx?
Skin biopsy, esp vulvar to r/o cancer. Saw tooth appearance with inflammation of dermal epidermal junction, hypergranulosis

Tx:
High potency topical steroid (clobetasol)->Many others in clinical practice, often hard to control



DermnetNZ
https://dermnetnz.org/topics/lichen-planus

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https://dermnetnz.org/topics/lichen-planus

DermnetNZ
https://dermnetnz.org/topics/lichen-planus

Papulosquamous Disorders cont.

16 yo with viral sx and annular pink patch followed several days later by Christmas tree pattern of pink plaques with scaling.

Pityriasis rosea

Note peripheral scaling (collarette scale)

Tx:

Reassurance, antihistamines, topical corticosteroids, often resolves after several weeks

*should spare palms and soles-otherwise think syphilis

DermnetNZ
https://dermnetnz.org/topics/pityriasis-rosea

DermnetNZ
https://dermnetnz.org/topics/pityriasis-rosea

Papulosquamous Disorders cont.

50 yo M presents with lesion that has grown over the last few months with waxy, stuck on appearance and a demarcated border.

Seborrheic keratosis (“wisdom spots”)

Bx:

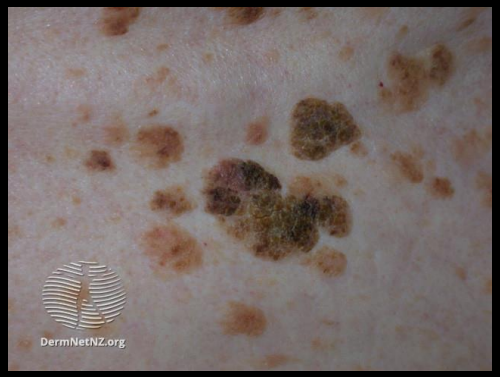
Keratin filled cysts (horn cysts)

Tx:

Benign lesion, not pre-malignant

Sudden appearance of many SKs?

Lesser Trelat sign-suspect malignancy (GI, lymphoid)



DermNetNZ
https://dermnetnz.org/topics/seborrhoeic-keratosis

DermNetNZ
https://dermnetnz.org/topics/seborrhoeic-keratosis

40 yo M with pruritic, greasy scaling, erythematous plaques with scale/flaking over nasolabial folds, forehead, scalp, eyebrows, dandruff.

Seborrheic dermatitis

In infants?

Cradle cap

Tx:

low potency steroid , medicated (Selenium) shampoos, topical antifungal if needed

In infants?

Emollients, nonmedicated shampoo

Topical antifungal if needed

DermnetNZ
https://dermnetnz.org/topics/seborrhoeic-dermatitis

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https://dermnetnz.org/topics/seborrhoeic-dermatitis

Papulosquamous Disorders

22 year old wrestler with pruritic, enlarging erythematous annular plaque with central clearing and overlying scale.
Tinea (dermatophyte) infection.
Genus names?
Microsporum, Trichophyton, Epidermophyon.
On head?
Tinea Capitis
On body?
Tinea corporis
Inguinal region?
Tinea Cruris
On foot?
Tinea pedis (most common interdigital)
On nails?
Tinea unguium, onychomycosis
Dx:
Usually clinical, KOH prep-branching septate hyphae
What can make the disease more extensive?
HIV, diabetes, recent steroids
Tx:
Topical azoles (clomitrazole), griseofulvin, topical terbinafine
Onychomycosis-terbinafine

DermnetNZ
https://dermnetnz.org/topics/tinea-corporis

DermnetNZ
https://dermnetnz.org/topics/tinea-pedis

DermnetNZ
https://dermnetnz.org/topics/tinea-corporis

DermnetNZ https://dermnetnz.org/topics/tinea-pedis

Immunobullous

45 yo with painful flaccid bullae that rupture easily ,+ Nikolsky, oral involvement?

Pemphigus vulgaris

Dx:

IgG anti desmoglein antibodies, bx

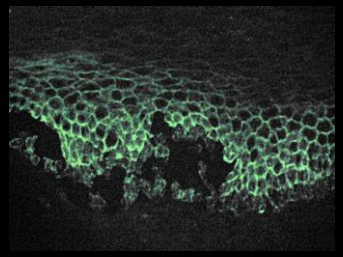
Bx with stain:

Net like pattern on bx with stain (Reticular), keratinolysis

Tx:

Systemic corticosteroids, may require maintenance immunosuppression (mycophenolate, rituximab)

DermnetNZ
https://dermnetnz.org/topics/pemphigus-vulgaris



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60 yo F with tense bullae of flexural regions and abdomen, was mildly pruritic at first, no oral involvement, - Nikolsky.

Bullous Pemphigoid

Pathophys?

Detachment of basal layer from BM (lose attachment)

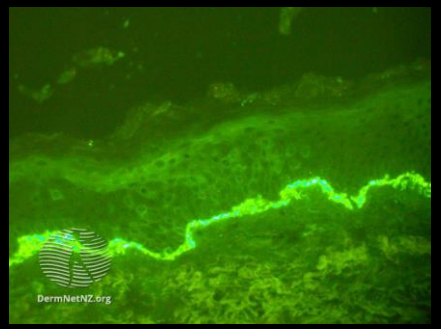
Dx:

IgG anti-hemidesmosomes

Bx: Linear immunofluorescence at dermal-epidermal junction

Tx:

High potency topical steroid (clobetasol)



DermnetNZ
https://dermnetnz.org/topics/bullous-pemphigoid-pathology

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Bullous

21 yo F presents with pruritic grouped vesicles and bullae over the elbows, has had loose stools the last several months and 5 lb weight loss. Also notes vision changes at night. Exam-excoriated lesions over elbows.

Dermatitis Herpetiformis

Pathophys:

IgA deposition at tips of dermal papillae

Associated with Celiac Disease (weight loss, diarrhea, steatorrhea, fat sol vitamin def)

Dx:

Anti-Gliadin, anti-TTG, anti-endomysial IgA and IgG

Skin bx: Collections of neutrophils within dermal papillae (papillary microabscesses)-Coalesce

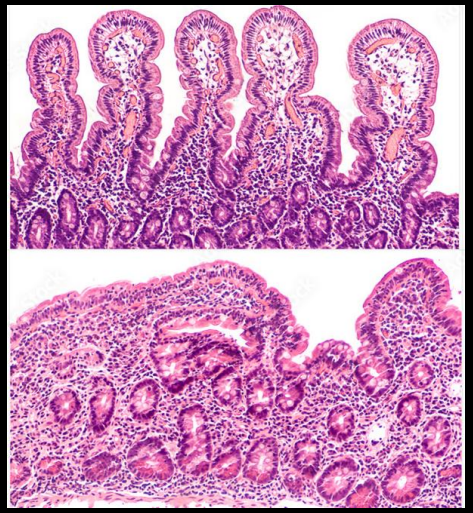
Scope:

Duodenal villous atrophy/flattening

Tx:

Dapsone, Gluten avoidance

DermnetNZ
https://dermnetnz.org/images/dermatitis-herpetiformis-images



Adobe stock photos

Bullous Diseases

30 yo M PMH Chronic Hep C, recently drank alcohol and has painful blistering on hands and sun exposed skin. Scattered hyperpigmented macules are noted.

Porphyria Cutanea tarda-blisters become hyperpigmented/scarring

Pathophys?

Deficient Uroporphyrinogen decarboxylase (UROP), buildup of uroporphyrinogen III

What other derm/vasculitis is Hep C associated with?

lichen planus, mixed cryoglobulinemia

Labs:

Elevated liver enzymes, HepC, iron testing (overload), urine and plasma porphyrin

Woods lamp:

coral red urine

Tx:

phlebotomy, chloroquine, sunscreen, avoid triggers

-triggers can include barbiturates and other cytochrome p450 inducers (why?)

Contrast with Acute intermitted porphyria-5 Ps

DermnetNZ.
https://dermnetnz.org/topics/porphyria-cutanea-tarda

Bullous Diseases

21 yo F with recurrent bullae and ulcers with minor trauma since childhood.

Epidermolysis bullosa

Pathophys:

intraepidermal cleavage 2/2 inherited mutations in keratin proteins-fragility of epithelial tissue

Dx:

Skin biopsy, genetic screening

Tx:

Wound care, pain management, avoid trauma

DermnetNZ.
https://dermnetnz.org/topics/epidermolysis-bullosa

Target Practice

18 yo with target-shaped lesions with a violaceous center and surrounding ring of pallor and erythematous border. Otherwise feels well.

DermNetNZ.
https://dermnetnz.org/topics/erythema-multiforme

Erythema Multiforme
Associated with?
HSV1, *Mycoplasma pneumoniae*, sulfa drugs, phenytoin
Tx:
Supportive care, reassurance

Call the Dermatologist

45 yo with fever, malaise, myalgia, sore throat last week had bullae, targetoid lesions over face and trunk now has extensive bullae and sloughing of skin w/ + Nikolsky. Started Bactrim for UTI several weeks ago.

Stevens Johnsons Syndrome (SJS)

Prodromal phase-fever, malaise, sore throat, myalgias

Mucocutaneous lesions follow prodrome

ALMOST ALWAYS involves mucus membranes!

Usually adverse drug reaction

Which drugs?

Classically allopurinol, abx, phenytoin, LAMOTRIGINE, carbamazepine, nsaids, sulfasalazine.

If >30% involvement?

Toxic Epidermal Necrosis (TEN). 10-30% is overlap syndrome

Tx:

Stop offending agent, IV steroids, Burn consult for wound case, intense IV fluids. High mortality rate.

DermnetNZ
https://dermnetnz.org/topics/stevens-johnson-syndrome-toxic-epidermal-necrolysis

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Pigmentation

Melanocytes present in which layer?

stratum basale

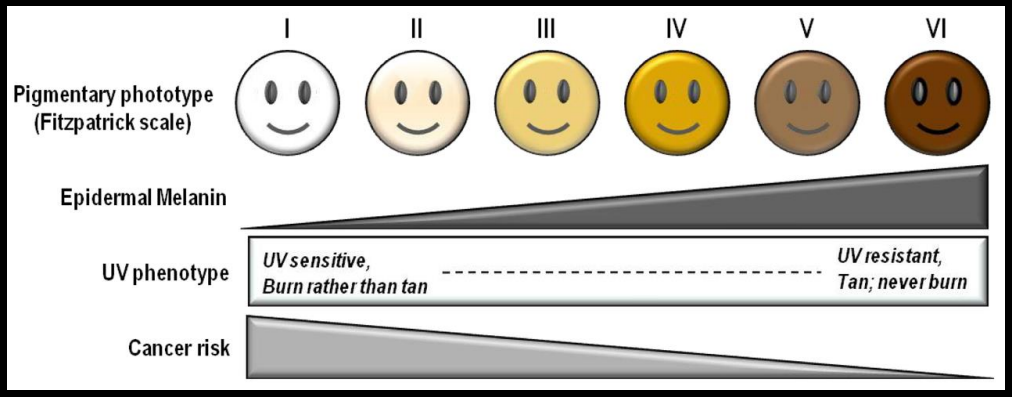
Function?

synthesize melanin

Create melanosomes, transfer to keratinocytes via dendrites

-melanosome size and distribution explain differences between light and dark skin

Fitzpatrick classification:



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Hypopigmentation

Congenital lack of pigmentation

Albinism

Pathophys?

nonfunctioning tyrosinase or defective tyrosine transport/production

What amino acid/biochem disorder assoc.?

PKU: no phenylalanine to tyrosine metabolism

What immunodeficiency associated w/ albinism?

Chediak Higashi Syndrome

Pathophys of Chediak Higashi?

Microtubule defect

Melanocyte count?

Normal melanocyte count, decreased melanin production

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White forelock on the scalp?

Piebaldism

Pathophys?

Disordered melanocyte migration-neural crest

DermNetNZ
https://dermnetnz.org/topics/piebaldism

Hypopigmentation

25 yo with nonpruritic, progressive, painless loss of pigmentation of skin

Vitiligo

Pathophys?

localized depigmentation-autoimmune destruction of melanocytes

Associated with?

Another autoimmune conditions

Bx: absent melanocytes in skin

Tx:

topical steroid

if extensive : oral steroid, topical calcineurin inhibitor, PUVA

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26 yo returning from spring break in Cancun with mildly pruritic scattered hypopigmented lesions with fine scale.

Tinea versicolor

Cause?

Malassezia globosa or furfur

-hot and humid weather

Hypopigmentation more pronounced after sun exposure (surrounding skin becomes darker)

Dx:

Woods lamp, KOH prep-spaghetti and meatballs hyphae and yeast

Tx:

Topical –azoles, terbinafine, selenium shampoo

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Hypopigmentation

40 yo zookeeper with erythematous hypopigmented elevated plaque and reduced sensation?

Mycobacterium leprae

Reservoir in US?

Armadillos

Which form of leprosy?

Tuberculoid (Th1) vs Lepromatous (Th2)

Dx?

Biopsy

Tx?

Dapsone + rifampin for 6 months

DermNetNZ
https://dermnetnz.org/topics/leprosy

8 yr old unknown FH with seizures, angiofibromas, leathery skin lesions, and hypopigmented patch.

Tuberous Sclerosis-ash leaf spot

Many hamartomas

Mutation?

TSC1 or TSC2 mutation (hamartin, tuberin)

DermNetNZ
https://dermnetnz.org/topics/tuberous-sclerosis

Hyperpigmentation

28 yo G2P1 with “darkening” of cheeks
Melasma
“mask of pregnancy”
What medication?
OCP
Tx?
Avoid sun exposure
May consider cosmetic skin bleaching agents (topical hydroquinone)

DermNetNZ
https://dermnetnz.org/topics/melasma

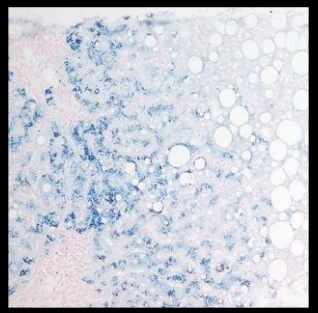
3-day old infant African American M with flat bluish gray patches over buttocks and lower back?
Congenital dermal melanocytosis
Intern-what to do about these?
Document, no CPS
Tx?
Resolves over time

DermnetNZ
https://dermnetnz.org/topics/lumbosacral-dermal-melanocytosis

Hyperpigmentation

50 yo F with several months fatigue, abdominal pain, BP 90/50, hyperkalemia, NAGMA presents with hyperpigmentation of skin and gums
Primary adrenal insufficiency
Pathophys?
Increased MSH 2/2 increased ACTH prod

50 yo M with jaundice, recently diagnosed diabetes, dilated cardiomyopathy, joint pain, hx *Vibro vulnificus* infection, hypothyroidism presents with brownish hyperpigmentation.
Hemochromatosis "bronze diabetes"
Pathophys?
Hemosiderin deposition in dermal macrophages
Tests?
Genetic, iron labs, LFT
Tx:
phlebotomy



Case courtesy of Andrew Dixon, Radiopaedia.org, rID: 9636

Acneiform

16 yo M with comedones, pustules, inflamed papules over forehead and cheeks. Recent growth spurt.

Acne vulgaris

Pathophys?

Chronic inflammation of hair follicles and sebaceous glands. Keratinization blocks sebum

Organism?

Propionibacterium acnes: colonizes glands-releases inflammatory fatty acids

Puberty affect on acne?

DHT increases sebum secretion-puberty

Tx:

Comedal: topical retinoid, salicyclic acid

Inflammatory: topical retinoid+benzoyl peroxide

Can add topical or oral abx if severe

Nodular/cystic acne: consider oral Vitamin A (isotretinoin)

What to check before starting oral isotretinoin?

Pregnancy test (hcG)

-check monthly while on isotretinoin

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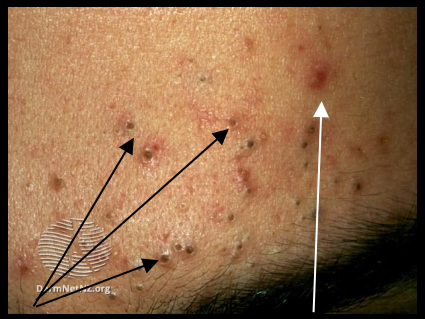
Categorization of Acne

Morphologic characteristics/Severity:

Comedonal acne



Open comedones (blackheads)

Closed comedones (whiteheads)

Open comedone color results from oxidation and melanin deposition.
- More mild form of acne.

Papulopustular acne

-Characterized by **larger inflammatory papules and pustules.**
-Often tender or painful.
- Moderate severity.

Nodulocystic acne

- Characterized by large inflammatory papules, pustules, with **large cysts**.
- Often tender, painful.
- Often cause **scarring**.
- Most severe type of acne.

DermNetNZ
https://dermnetnz.org/topics/acne

Approach to Therapy

Comedonal acne

Papulopustular acne

Nodulocystic acne

Non-comedogenic moisturizer/sunscreen

Topical retinoid, salicylic acid

Topical retinoid, salicylic acid, BPO

Add topical antibiotics

Switch to systemic abx

Consider spironolactone/OCP

Isotretinoin

DermNetNZ
https://dermnetnz.org/topics/acne

Acneiform

25 yo F with erythematous papules and pustules, flushing after drinking alcohol. Has occasional “pimples” and was previously treated for acne which has since resolved.

Rosacea

Nose involvement?

Rhinophyma-bulbous deformity of nose

Can have Ocular rosacea with lip margin telangiectasia, conjunctival hyperemia

Triggers?

alcohol, heat

Ddx:

No comedones (unlike acne vulgaris)

Tx:

topical metro, doxycycline

Laser, topical brimonidine for erythmatotelangiectatic subtype

DermnetNZ
https://dermnetnz.org/topics/rosacea

Skin Cancer

75 yo M presents with rough, “gritty”, scaly plaques with hyperkeratosis over the face and scalp. He recently retired from farming.

Actinic Keratosis

This is a precursor to?

SCC

Dx?

On Boards-Bx

Tx:

cryo for small, 5-FU for multiple, imiquimod

DermNetNZ
https://dermnetnz.org/topics/actinic-keratosis

60 yr old with “cup shaped” tumor filled with keratin debris. Has grown rapidly over the last several weeks.

Keratoacanthoma

Well differentiated SCC

Tx:

Can regress on their own (on boards), we treat these as SCC in clinic (excision, curettage)

DermNetNZ
https://dermnetnz.org/topics/keratoacanthoma

Skin Cancer

Ulcerative red lesion with scaling
SCC
Second most common
Bx:
cellular pleomorphism, hyperchromatism, keratin pearls
Increased risk with?
1) Immunosuppression (oral steroid)-transplant pts
2) chronic scar/wound/burn-Marjolin ulcer
Invasive SCC:
Excision (4-6mm margins)
SCC in situ:
Excision, C&E, Cryo, 5FU, imiquimod

SCC in situ?

Bowens disease

DermNetNZ
https://dermnetnz.org/topics/cutaneous-squamous-cell-carcinoma

Waxy, pink, pearl like papules/nodules, rolled borders, can have central ulceration with telangiectasias
BCC
Most common skin cancer
Bx:
basophilic staining basal epidermal cells with palisading
Tx:
Surgical excision 4 mm margin, Mohs in high risk
Rarely metastasize
B
S

DermNetNZ
https://dermnetnz.org/topics/basal-cell-carcinoma

Skin Cancer

40 yo with symmetric, regular borders, homogenously colored, lesion since childhood. Has not increased in size.

Nevus

Cause?

Benign neoplasm of melanocytes

Can be associated with?

Hair

Progression?

Junctional (flat) to intradermal (papular)

DermNetNZ
https://dermnetnz.org/topics/melanocytic-naevus

ABCDE of Melanoma?

A: Asymmetry

B: Border irregularity

C: Color variation

D: Diameter >6mm

Evolution: changes in shape

Most important prognostic factor?

Breslow thickness (depth of invasion)

Subtypes?

Acral lentigo, nodular, superficial spreading, lentigo maligna

Dx:

requires EXCISIONAL bx-want to evaluate depth, S100 marker

WLE +/- SLNB (depending on breslow depth) +/- adjuvant chemorads (depending on SLNB)

DermNetNZ
https://dermnetnz.org/topics/melanoma

Hypersensitivity

Type I

Anaphylactic and Atopic

Mediated by IgE

Early and late phase

Atopic Dermatitis

Urticaria, Anaphylaxis

Type II

Abx against cellular antigens

Cellular destruction, dysfxn, inflammation

Pemphigus vulgaris, bullous pemphigoid

Type III

Immune complex-abx with antigen

Serum sickness

Serum-sickness like rxn

-penicillin

DermNetNZ
https://dermnetnz.org/topics/serum-sickness-like-reaction

Type IV

T cell mediated reaction, direct (CD8 Tcells) and inflammatory (CD4)

Delayed rxn

Allergic contact dermatitis, Drug reactions

DermNetNZ
https://dermnetnz.org/topics/allergies-explained

Type 1 Hypersensitivity

30 year old woman with pruritic erythematous elevated plaque that lasts less than a day and then resolves without bruising or scarring. Unsure if any particular triggers.

Urticaria
What duration is required for chronic urticaria?
2 or more episodes for 6 weeks
Common triggers of acute urticaria (hives)?
Viral infection, food allergy, drug allergy, drug induced urticaria, bug bites
Triggers for chronic urticaria?
Heat, tight clothing, drug, inducible subtype (dermographism, cold, cholinergic, pressure, vibratory, solar, aquagenic)
Can be associated with?
Angioedema
Pathophys?
Release of histamine, cytokines from circulating mast cells and basophils. Release of bradykinin may cause concomitant angioedema.
Dx:
Clinical, Punch biopsy in equivocal cases
May consider punch biopsy if concern for urticarial vasculitis (suspect if lesion lasts >24h, leaves bruising or ulceration) , also consider urticarial phase of bullous pemphigoid (similar presentation but typically older patients, widespread involvement, highly pruritic)
Tx:
Trigger avoidance
High dose cetirizine 20 mg bid (antihistamine)-effective in most patients
Omalizumab (Xolair) –IgE inhibitor monoclonal ab
Cyclosporine in refractory cases

DermNetNZ
https://dermnetnz.org/topics/urticaria-an-overview

Type 4 Hypersensitivity

45 yo M with pruritic, erythematous, lichenified plaque with vesicles over wrist weeks after getting a new watch.

DermNetNZ
https://dermnetnz.org/topics/allergic-contact-dermatitis

Allergic Contact Dermatitis

What metal is most commonly assoc?

Nickel

Abx?

Neomycin

Following outdoor activity, linear streaks?

Poison ivy (urushiol)

Pathophys?

Exposure to allergen, then re-exposure. Occurs 24-72 hrs following initial exposure to antigen. Epidermal spongiosis, lymphocyte infiltration from epidermis to deep dermis

T-cell mediated

Dx:

Clinical, Patch testing

Tx:

Removal of offending agent, high potency topical steroids (clobetasol)

DermNetNZ
https://dermnetnz.org/topics/plant-dermatitis

Vascular

50 yo M recently had kidney transplant, has flat purple, slightly elevated plaques with irregular borders that progressed to violaceous papules over the face and back.

Kaposi Sarcoma

Additional testing?

GI scope, lung imaging

Check for HIV if unknown immunosuppression

bx to r/o?

bacillary angiomatosis (*B henslae*-neutrophils on bx)

Viral association?

HHV8

Tx:

Treat underlying immunosuppression (HAART), radiotherapy, laser therapy (PDL, CO2), excision

HIV assoc?

antiretroviral therapy, can also treat with chemo

Immunosuppressed?

reduce immunosuppression, in organ transplant can switch to sirolimus as immunosuppressant (mTOR inhibitor)

DermNetNZ
https://dermnetnz.org/topics/kaposi-sarcoma

14 year old boy presents with growing occasionally painful lesion that bleeds vigorously over finger

Pyogenic granuloma

DermNetNZ
https://dermnetnz.org/topics/pyogenic-granuloma

Paraneoplastics

65 yo F with difficulty combing hair, muscle weakness, violaceous heliotrope edema and erythema around the eyes, erythema in shawl and face distribution, Gottron papules.

Dermatomyositis

Associated with?

Adenocarcinoma, lung fibrosis

Muscle biopsy findings?

Perimysial inflammation with CD4 T cells

By Elizabeth M. Dugan, Adam M. Huber, Frederick W. Miller, Lisa G. Rider - http://dermatology.cdlib.org/1502/reviews/photoessay/1.jpg, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=9748007

60 yo F with muscle weakness without rash?

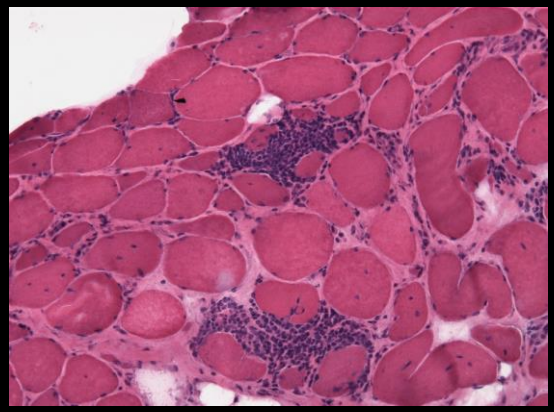
Polymyositis

Associated with?

Carcinoma

Muscle biopsy?

Endomysial inflammation with CD8 T cells



By Jensflorian - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=11773843

Rheum

30 yo F with chest pain that improves with leaning forward, pain in multiple joints, recurrent painless oral ulcers, labs significant for anemia, thrombocytopenia, elevated creatinine to 1.4. What are the common derm findings in this condition?

SLE-malar rash, discoid rash

What antibodies?

Anti-dsDNA, anti-Smith, antiphospholipid, anticardiolipin

Mixed connective tissue disease (3)?

SLE, systemic sclerosis, polymyositis

Antibody?

Anti-U1 RNP

https://dermnetnz.org/topics/cutaneous-lupus-erythematosus

Raynaud, capillary dropout, digital ulcers, thickened, smooth skin that causes difficulty with PIP flexion, calcinosis cutis.

Systemic sclerosis

-widespread skin involvement, organ involvement (kidney-captopril, pulm HTN)

Antibodies?

Anti Scl 760 antibody (anti DNA topoisomerase I) and anti-RNA polymerase III

limited cutaneous systemic sclerosis-distal to elbow

CREST (calcinosis cutis, Raynaud, esophageal dysmotility, sclerodactyly, telangiectaia)

Antibody?

anti-centromere -morphea (local scleroderma)

Tx: TTE, PFG, Chest CT, manometry, BP, +ANA

Source: Carol Soutor, Maria K. Hordinsky:
Clinical Dermatology: Diagnosis and Management of Common Disorder
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Skin Infection (Viral)-Rapid

May have erythema multiforme several weeks following infection
Initial-gingivostomatitis, subsequent cold sores
Dormant in trigem nerve-kynein anterograde trans
HSV

https://dermnetnz.org/topics/herpes-simplex

Painful rash with vesicles in multiple stages of healing preceded by burning and itching in dermatomal distribution
VZV
Nerve for ophthalmic involvement?
V1
Crosses midline?
Check HIV

https://dermnetnz.org/topics/herpes-zoster

Hairy leukoplakia, lateral tongue, cannot scrape
Occurs in HIV positive patients
EBV

https://dermnetnz.org/topics/oral-hairy-leukoplakia

Molluscum contagiosum
Poxvius-Doomsday virus-virus contains everything it needs (like doomsday prepper)-resides in the cytoplasm (cytoplasmic inclusions on bx)
Tx?
Observation, cryo, cantharidin

https://dermnetnz.org/topics/molluscum-contagiosum

30 yo F evaluation of hyperkeratotic papules on the sole of the foot with telangiectasia/seeds following scraping.
Verrucae/plantar wart (ddx corn)
Virus enters through?
skin abrasions
Low risk HPV strains

https://dermnetnz.org/topics/viral-wart

Skin Infection (bacterial)

Ulcerative, dark lesion extending into the dermis, pt is in hospital.

https://dermnetnz.org/topics/pseudomonas-skin-infections

Ecthyma gangrenosum-*Pseudomonas*

Associated with bacteremia

Obtain gram stain, bx for H&E and for culture

What does *Pseudomonas sp* cause on ear?

Otitis externa

What does *Pseudomonas* cause after hot tub exposure?

Folliculitis

https://dermnetnz.org/topics/pseudomonas-skin-infections

Patient PMH cirrhosis got cut while boating, now has cellulitis and bullous lesions.

Vibrio vulnificus

Pt got in motorcycle accident and presents with fever, chills, diffuse erythema with dusky skin, tenderness out of proportion, crepitus.

Nec fasc

Tx?

Debridement, broad spectrum abx-include clinda.

Why include clindamycin (2)?

Cover anaerobes (C perfringens), prevent toxin formation (50s inhibitor)

Pt with painless genital ulcer now has deforming scarring of face. Bx shows granulomatous lesions with necrotic center and spirochetes.

Gummas (syphilis)

What other findings?

Argyll Robertson pupil, tabes dorsalis (dorsal column and DRG), late-CNS involvement

Skin Infection (bacterial)

Demarcated, erythematous, superficial, rapid onset skin lesion. Fever.

Erysipelas

Most common cause?

GAS

https://dermnetnz.org/topics/erysipelas

Fever, lesion with flat edges, poorly demarcated, deep dermal involvement?

Cellulitis

Most common cause if nonpurulent?

GAS>MSSA

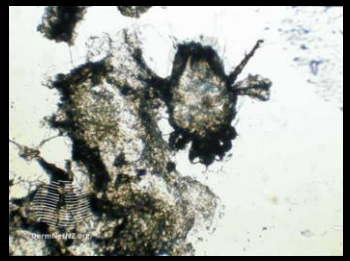
If purulent

MSSA/MRSA

https://dermnetnz.org/topics/cellulitis

Bug bites

40 yo M with pruritic rash with pustules and erythematous papules involving the web spaces, wrist, palms. Family members with similar sx.
Scabies
Caused by?
Sarcoptes scabiei
Dx:
clinical-look for burrows, skin scraping-mites, ova
Tx:
topical permethrin or oral ivermectin, treat household members, wash bedding


https://dermnetnz.org/images/scabies-images

6 yo M with intense pruritis, excoriations over scalp and neck. Other classmates have similar sx.
Lice
Organism?
Pediculus humanas
What can body lice transmit?
Rickettsia prowazekii (endemic typhus)
Tx?
Ivermectin lotion, nit combing, malathion

https://dermnetnz.org/topics/head-lice

25 yo in homeless shelter with pruritic papules in linear pattern, erythematous papules with hemorrhagic punctum.
Bed bugs
Organism?
Cimex lectularis
Tx?
Pest control, sx management, resolves after several days

https://dermnetnz.org/topics/bed-bugs

Progressive ulcerating, necrotic wound, malaise, anemia on foot. Recently came back from cabin and wore old boots.
Brown recluse bite
Caused by toxin?
sphingomyelinase D
Tx?
Supportive

Br-recluse-guy, Public domain, via Wikimedia Commons

Bug bites 2

20 yo went camping last week in Door County, target lesion.
"Bulls eye"
Erythema Chronicum Migrans (Lyme disease)
What is the vector?
Ixodes tick, Borrelia spp., prophylaxis after >36-hr doxy
What else does this carry?
Anaplasmosis, babesiosis

Other "target lesions" with infectious causes?
Erythema Multiforme
Tinea

Venous stasis

60 yo with pitting edema of LE with erythema, pruritis, purpura with brown hemosiderin deposits and scaling.

Stasis Dermatitis

2/2 to?

venous insufficiency

Pathophys?

Begins with irritation of dermis 2/2 extravasation of fluid, proteins, RBCs

May develop lipodermatosclerosis

Ulceration classically at?

Medial malleolus

Tx?

Treat with topical steroids acutely, COMPRESSION STOCKINGS mainstay of treatment

Confirm?

US

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Burn

Superficial-epidermis only
-blanch, painful
Superficial partial thickness burn-epidermis and some dermis
-blister, painful, blanchable
Deep partial thickness burn-epidermis and some dermis
-nonblanchable, painless, perceive pressure-disrupted blood flow and nerve damage
Full thickness-epidermis and full dermis
-nonblanchable, nonpainful, waxy/leathery appearance, perceive deep pressure

Rule of 9s

Tx of Serious burn?
escharotomy, IVF (LR), Infection proph, testosterone, PPI
Burn unit

Systemic disease in derm

25 yo just came back from Arizona with multiple 2 cm, tender, erythematous nodules along the shins.
Erythema Nodosum (Cocci>histo)
Also associated with?
IBD, sarcoid, infection, malignancy
Pathophys?
(panniculitis)-inflammation of subQ fat: Robust immune response

https://dermnetnz.org/topics/erythema-nodosum

40 yo F BMI 35 irregular menstrual cycles
Acanthosis nigricans-PCOS
Pathophys?
Hyperpigmentation of flexoral regions-increased melanin granules in basalis
Associated with?
Insulin resistance> malignancy (gastric adeno)
-keratinocytes have IGF-1 receptor-acanthosis (hyperplasia of spinosum)

https://dermnetnz.org/topics/acanthosis-nigricans

Large, painful ulcer over shin with violaceous borders. Several months of loose stools.
Pyoderma Gangrenosum
Associated with?
IBD

Multiple skin tags (acrochordon)?
Insulin Resistance, pregnancy, perianal Crohn's

Severe seborrheic dermatitis?
HIV, Parkinson's

https://dermnetnz.org/topics/skin-tag

https://dermnetnz.org/topics/pyoderma-gangrenosum

Xerosis and more

Patient with xerosis, scaling, hyperlinearity of palms and soles, worse in the winter. Family history of similar sx and atopy.

https://dermnetnz.org/topics/ichthyosis-vulgaris

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Ichthyosis vulgaris
Mutation in?
Filaggrin gene, autosomal dominant
Pathophys?
Defective keratinocyte desquamation (retention hyperkeratosis), epidermal hyperplasia-extensor surfaces
Tx?
Emollients, keratinolytic, topical retinoids
What can present similarly with shortened 4th toe?
Refsum disease (alpha oxidation defect, cannot metabolize phytanic acid)

How to treat xerosis?
Humidifiers in the winter
Lukewarm water in showers
Mild soaps
Avoid fragrances
Cream, ointments>lotions, especially in the winter

Aging in Skin

DermNetNZ
https://dermnetnz.org/topics/vascular-proliferations-and-abnormalities-of-blood-vessels

Cherry angioma
Affects?
Older adults

DermNetNZ
https://dermnetnz.org/topics/vascular-proliferations-and-abnormalities-of-blood-vessels

Infantile hemangioma
Affects?
Infants, may exhibit rapid growth prior to involution around 18 months

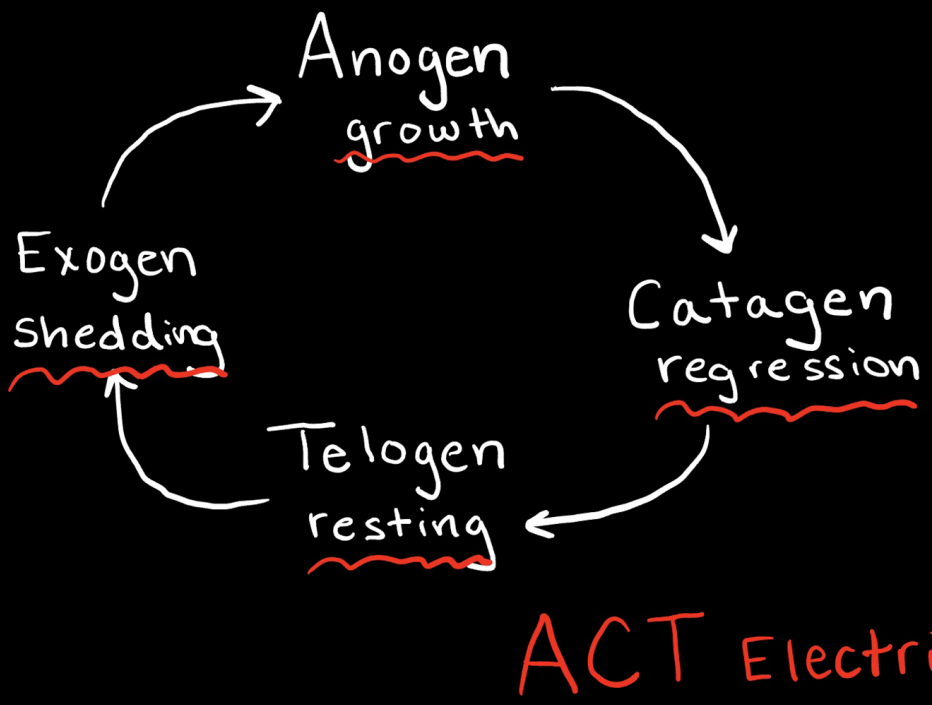
DermNetNZ
https://dermnetnz.org/topics/lentigo

Solar lentigo-melanocyte proliferation 2/2 sun exposure (benign)

DermNetNZ
https://dermnetnz.org/topics/senile-purpura

Solar (senile) purpura-benign bruising 2/2 skin, vessel fragility-non blanchable

Alopecia



doe-oakridge. 82-25 DOE photo by Frank Hoffman, Public domain, via Wikimedia Commons

Anagen effluvium

Fragile hairs; Skip from anagen to exogen. Chemo.

Telogen-effluvium

Follicles exit anagen phase too early-thinning, synchronous hair growth

-Hair pull test: hair shafts easily pulled out

Occurs following severe stress (illness, surgery, pregnancy)

Alopecia

African American F with alopecia, ROS + for pruritis, on exam you find scaling plaques with associated alopecia and postauricular lymphadenopathy.

Gzzz, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons

Tinea Capitis

Failure to treat-permanent hair loss
KOH scrape AND culture
Tx with SYSTEMIC ANTIFUNGAL therapy (oral griseofulvin, terbinafine)

Pt with patchy alopecia and sparse eyebrows. Hair is of varying length. Hx anxiety, OCD.

Carvalho VO, Abagge K, Marinoni LP, et al. Trichotillomania: a cry for helpCase Reports 2009;2009:bcr0920080896.

Trichotillomania

Dx: shaving a “window”-hair growth will be equal within window. Assoc with OCD, anxiety
Tx: CBT, SSRI

Alopecia

55 yo M with alopecia and thinning of vertices and crown. Miniaturization seen on dermoscopy.

https://dermnetnz.org/topics/male-pattern-hair-loss

Androgenic alopecia (Male pattern baldness)

Mediated by?

Androgens (5 DHT)

Affects crown, begins as thinning

Tx:

Topical/oral minoxidil (vasodilator), oral finasteride; Women may use OCP and spironolactone

45 yo F PMH adrenal insufficiency, Hashimoto presenting with alopecia. On exam you find well defined circular alopecia with + exclamation point sign.

https://dermnetnz.org/topics/alopecia-areata

Alopecia areata

Pathophys?

Autoimmune destruction of hair follicles.

Well defined circular bald spot

Exclamation point sign: hairs appear to be floating-shaft narrows and loses pigment close to the scalp

Dx: Hair pull test (5-6 hairs extracted), Bx

Tx: topical or intralesional steroid, consider topical immunotherapy in extensive

Hair Misc.

https://dermnetnz.org/topics/pseudofolliculitis-barbae

22 yo African American male presents with painful papules and pustules with follicular involvement beneath the chin and neck.
Pseuofolliculitis barbae
Tx?
Use single blade razor, warm compresses before shaving

https://dermnetnz.org/topics/hair-loss

35 year old woman presenting with 1 month of ”hair shedding”. She states she is able to pull out “handfuls of hair” in the shower. Positive hair pull sign. Recently stopped OCPs about 5 months ago. Likely Dx?
Telogen Effluvium
Cause?
Shedding of resting telogen fairs following change in medications, surgery, stress, illness.
Labs?
CBC, ferritin, TSH
Tx?
Supportive-resolves with time
Can exacerbate underlying androgenic alopecia-can consider minoxidil